

# Work Order ID 56742

March 5, 2010 11:23:47 AM



Page 1

Item ID: D412-742-041

Accept



Setup Start



Revision ID:

Item Name: Replacement Float Skidtube

Stop



Start Date: 05/03/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 17/03/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

*RF*

Date: *10305*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D3391

Rev H

100

0.00



DC

DOCUMENT CONTROL

Memo

0.00

Document Control

If D412-742-041 is a W/O on it's own,  
Photocopy bluefile and create labels per PPP D412-742-041 CHG004

*N/A* *[Signature]*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_






NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			



**NOTE:** Date & initial all entries



# Work Order ID 56742

March 5, 2010 11:23:47 AM

Page 2

Item ID:	D412-742-041	Accept		Setup	Start	
Revision ID:						
Item Name:	Replacement Float Skidtube				Stop	
Start Date:	05/03/2010	Start Qty:	1.00			
Required Date:	17/03/2010	Req'd Qty:	1.00			
Reference:				Cust Item ID:		
				Customer:		

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110  HandFinish Hand Finishing	HandFinishing  Memo 1-Install tubes together and seal them all the way around using Sikaflex 241/291. Ensure tube ends line-up with saddle holes for proper alignment. using 7/16" "T" Pins. ✓ A/R <input type="checkbox"/> Sikaflex-241/-291 <u>M115114</u> Expiry date: <u>11/01</u>  2-Install wearplates as per Dwg D3391. Ensure that plastic washers are against wearplate, then topped with the SS washer. Seal all bolts with sikaflex except ones with inserts on inside of tube, hand tighten only bolts with no sikaflex. ✓ A/R <input type="checkbox"/> Sikaflex-241/-291 <u>M115114</u> Expiry date: <u>11/01</u>  ✓ 3-Remove "T" pins once sikaflex is dry.  4-Coat all exposed hardware with LPS Procyon. Remove any excess off with MEK degreaser. ✓ A/R <input type="checkbox"/> LPS Procyon <u>M114596</u>	0.00  0.00							
120  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00  0.00							

M 10 08 18 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 56742**

March 5, 2010 11:23:47 AM

Page 3

Item ID: D412-742-041

Accept

Revision ID:

Item Name: Replacement Float Skidtube

Start Date: 05/03/2010 Start Qty: 1.00

Required Date: 17/03/2010 Req'd Qty: 1.00


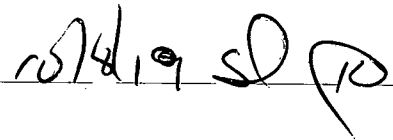

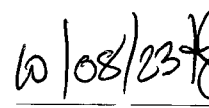
Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start  
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130  Packaging Packaging	Packaging  Memo Identify and pack for shipping as per PPP D412-742-041 <input type="checkbox"/> Location: _____ <input type="checkbox"/> PPP Rev: _____	0.00 0.00							
140  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00 0.00							  MF 10-8-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

March 5, 2010 11:23:51 AM

Page 1

Work Order ID: 56742

Parent Item: D412-742-041

Parent Item Name: Replacement Float Skidtube

Comments: IPP Rev A ☐ 05.10.13 ☐ New Issue ☐  
 IPP Rev B ☐ 06.02.13 ☐ ECN 773 dwg @ rev.D  
 IPP Rev:C 07-05-28 As per Rev F  
 IPP rev D 07.11.01 ecn 1053p

KJ/JLM ☐  
 EC  
 JLM  
 EC

Start Date: 05/03/2010

Required Date: 17/03/2010

Start Qty: 1.00

Required Qty: 1.00

AN3C4A Purchased No 110 Each 1,649.000 24.0000



BOLT



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST

1649

M 114941

x24 Hl 10/08/18

112314

13

112720

12

112724

3

112829

1

112991

2

113121

64

113226

344

113644

110

113749

100

114103

500

114108

500

AN3C6A Purchased No 110 Each 718.0000 12.0000



BOLT



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST

718

111982

718

Hl 10/08/18

x12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

March 5, 2010 11:23:51 AM

Page 2

Work Order ID: 56742

Parent Item: D412-742-041

Parent Item Name: Replacement Float Skidtube

Start Date: 05/03/2010

Required Date: 17/03/2010

Comments: IPP Rev A 05.10.13 New Issue  
IPP Rev B 06.02.13 ECN 773 dwg @ rev.D  
IPP Rev: C 07-05-28 As per Rev F  
IPP rev D 07.11.01 ecn 1053p

KJ/JLM  
EC  
JLM  
EC

Start Qty: 1.00

Required Qty: 1.00

AN3C7A Purchased No 110 Each 485.0000 8.0000



BOLT



Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST 485

105906 21

107376 252

113149 212

AN960C10L Purchased No 110 Each 388.0000 44.0000



washer \*NAS1149C0332R



Warehouse Loc Qty Loc Code

Location

OFFSHORE

FG 100

103585 100

Main Warehouse

ST 288

112116 128

112612 160

x8 21 10/08/18

M115000 x44 10/08/18

March 5, 2010 11:23:51 AM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

March 5, 2010 11:23:51 AM

Page 3

Work Order ID: 56742

Parent Item: D412-742-041

Parent Item Name: Replacement Float Skidtube

Comments: IPP Rev A ☐ 05.10.13 ☐ New Issue ☐  
 IPP Rev B ☐ 06.02.13 ☐ ECN 773 dwg @ rev.D  
 IPP Rev: C 07-05-28 As per Rev F  
 IPP rev D 07.11.01 ecn 1053p

KJ/JLM ☐  
 EC  
 JLM  
 EC

Start Date: 05/03/2010

Required Date: 17/03/2010

Start Qty: 1.00

Required Qty: 1.00

AN960C416L

Purchased No

110

Each

1,314.000 4.0000



WASHER



## Warehouse

## Loc Qty

## Loc Code

### Location

OFFSHORE

FG

44

104925

44

Main Warehouse

ST

1270

111916

2

112612

368

112794

500

12828

400

D3391-011



Fwd Tube Assembly

D3391-013



Mid Tube Assembly

D3391-015



Aft Tube Assembly

A. Manufactured No

110

Each

0.0000

1.0000

Manufactured No

110

Each

0.0000

1.0000

Manufactured No

110

Each

0.0000

1.0000

x4 JH 10/08/18  
 x1 B56727 JH 10/08/18  
 x1 B56731 JH 10/08/18  
 x1 B56735 JH 10/08/18

March 5, 2010 11:23:51 AM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

March 5, 2010 11:23:51 AM

Page 4

Work Order ID: 56742



Parent Item: D412-742-041



Parent Item Name: Replacement Float Skidtube

Start Date: 05/03/2010

Required Date: 17/03/2010

Comments: IPP Rev A 05.10.13 New Issue  
IPP Rev B 06.02.13 ECN 773 dwg @ rev.D  
IPP Rev: C 07-05-28 As per Rev F  
IPP rev D 07.11.01 ecn 1053p

KJ/JLM  
EC  
JLM  
EC

Start Qty: 1.00

Required Qty: 1.00

D3564-1

Manufactured No

110

Each

18.0000

1.0000



Wearshoe

Warehouse

Loc Qty

Loc Code

Location

OFFSHORE

FG

2

33798

2

Main Warehouse

ST

16

47531

1

50270

1

51676

14

✓ H 10/08/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

## Picklist Print

March 5, 2010 11:23:51 AM

Page 5

**Work Order ID:** 56742



**Parent Item:** D412-742-041



**Parent Item Name:** Replacement Float Skidtube

**Start Date:** 05/03/2010

**Required Date:** 17/03/2010

**Comments:**

IPP Rev A 05.10.13 New Issue

KJ/JLM□

**Start Qty: 1.00**

**Required Qty: 1.00**

IPP Rev B□06.02.13□ECN 773 dwg @rev.D

EC

IPP Rev:C 07-05-28 As per Rev F

JLM

IPP rev D 07.11.01 ecn 1053p

EC

D3564-3

Manufactured	No
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0
23	0
24	0
25	0
26	0
27	0
28	0
29	0
30	0
31	0
32	0
33	0
34	0
35	0
36	0
37	0
38	0
39	0
40	0
41	0
42	0
43	0
44	0
45	0
46	0
47	0
48	0
49	0
50	0
51	0
52	0
53	0
54	0
55	0
56	0
57	0
58	0
59	0
60	0
61	0
62	0
63	0
64	0
65	0
66	0
67	0
68	0
69	0
70	0
71	0
72	0
73	0
74	0
75	0
76	0
77	0
78	0
79	0
80	0
81	0
82	0
83	0
84	0
85	0
86	0
87	0
88	0
89	0
90	0
91	0
92	0
93	0
94	0
95	0
96	0
97	0
98	0
99	0
100	0

110

Each

19.0000

1,0000



## Wearshoe

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
OFFSHORE		
FG	2	
33764	2	
Main Warehouse		
FP	5	
50113	5	
Main Warehouse		
FP19	11	
55489	11	
Main Warehouse		
ST	1	
46445	1	

yl ul 10/08/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

March 5, 2010 11:23:51 AM

Page 6

Work Order ID: 56742



Parent Item: D412-742-041



Parent Item Name: Replacement Float Skidtube

Start Date: 05/03/2010

Required Date: 17/03/2010

Comments: IPP Rev A 05.10.13 New Issue  
IPP Rev B 06.02.13 ECN 773 dwg @ rev.D  
IPP Rev C 07-05-28 As per Rev F  
IPP rev D 07.11.01 ecn 1053p

KJ/JLM  
EC  
JLM  
EC

Start Qty: 1.00

Required Qty: 1.00

D3564-5

Manufactured No

110

Each

36.0000

1.0000



Wearshoe

## Warehouse

## Loc Qty

## Loc Code

### Location

OFFSHORE

FG

2

34806

2

Main Warehouse

FP19

32

51925

1

54772

6

55024

12

55333

13

Main Warehouse

ST

2

45824

1

47433

1

B59157

xl M 10/08/15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

March 5, 2010 11:23:51 AM

Page 7

Work Order ID: 56742



Parent Item: D412-742-041



Parent Item Name: Replacement Float Skidtube

Start Date: 05/03/2010

Required Date: 17/03/2010

Comments: IPP Rev A ☐ 05.10.13 ☐ New Issue ☐  
 IPP Rev B ☐ 06.02.13 ☐ ECN 773 dwg @ rev.D  
 IPP Rev:C 07-05-28 As per Rev F  
 IPP rev D 07.11.01 ecn 1053p

KJ/JLM ☐  
 EC  
 JLM  
 EC

Start Qty: 1.00

Required Qty: 1.00

D3566-1 Manufactured No

110 Each 23.0000 2.0000



Gasket

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP

18

52512

3

54480

1

55011

1

55320

13

Main Warehouse

ST

5

46349

1

51218

1

51259

3

B60857

x2

261 10/08/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

March 5, 2010 11:23:51 AM

Page 8

Work Order ID: 56742



Parent Item: D412-742-041



Parent Item Name: Replacement Float Skidtube

Start Date: 05/03/2010

Required Date: 17/03/2010

Comments: IPP Rev A ☐ 05.10.13 ☐ New Issue ☐  
 IPP Rev B ☐ 06.02.13 ☐ ECN 773 dwg @ rev.D  
 IPP Rev: C 07-05-28 As per Rev F  
 IPP rev D 07.11.01 ecn 1053p

KJ/JLM ☐  
 EC  
 JLM  
 EC

Start Qty: 1.00

Required Qty: 1.00

D3566-5 Manufactured No

110 Each 26.0000 1.0000



Gasket



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP19

22

1359158

x1 22 10/08/18

55026

10

55335

12

Main Warehouse

ST

4

36113

1

46186

1

47318

1

51260

1

D3591-1

Manufactured No

110 Each 37.0000 2.0000



Bushing



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST

37

46105

29

47121

8

1357350

x1 37 10/08/18

March 5, 2010 11:23:51 AM

Shop Packet Print

Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

March 5, 2010 11:23:51 AM

Page 9

Work Order ID: 56742

Parent Item: D412-742-041

Parent Item Name: Replacement Float Skidtube

Start Date: 05/03/2010

Required Date: 17/03/2010

Comments: IPP Rev A ☐ 05.10.13 ☐ New Issue ☐  
 IPP Rev B ☐ 06.02.13 ☐ ECN 773 dwg @ rev.D  
 IPP Rev: C 07-05-28 As per Rev F  
 IPP rev D 07.11.01 ecn 1053p

KJ/JLM ☐  
 EC  
 JLM  
 EC

Start Qty: 1.00

Required Qty: 1.00

D3672-3 Manufactured No

110

Each

524.0000 4.0000



Phenolic Washer



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST117

24

1357704

51596

24

Main Warehouse

ST77

500

55560

500

MS27039C4-12

Purchased

No

110

Each

22.0000 4.0000



SCREW



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST

22

1114221

12726

4

2296

2

5558

16

xl 10108118  
xl 10108115

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

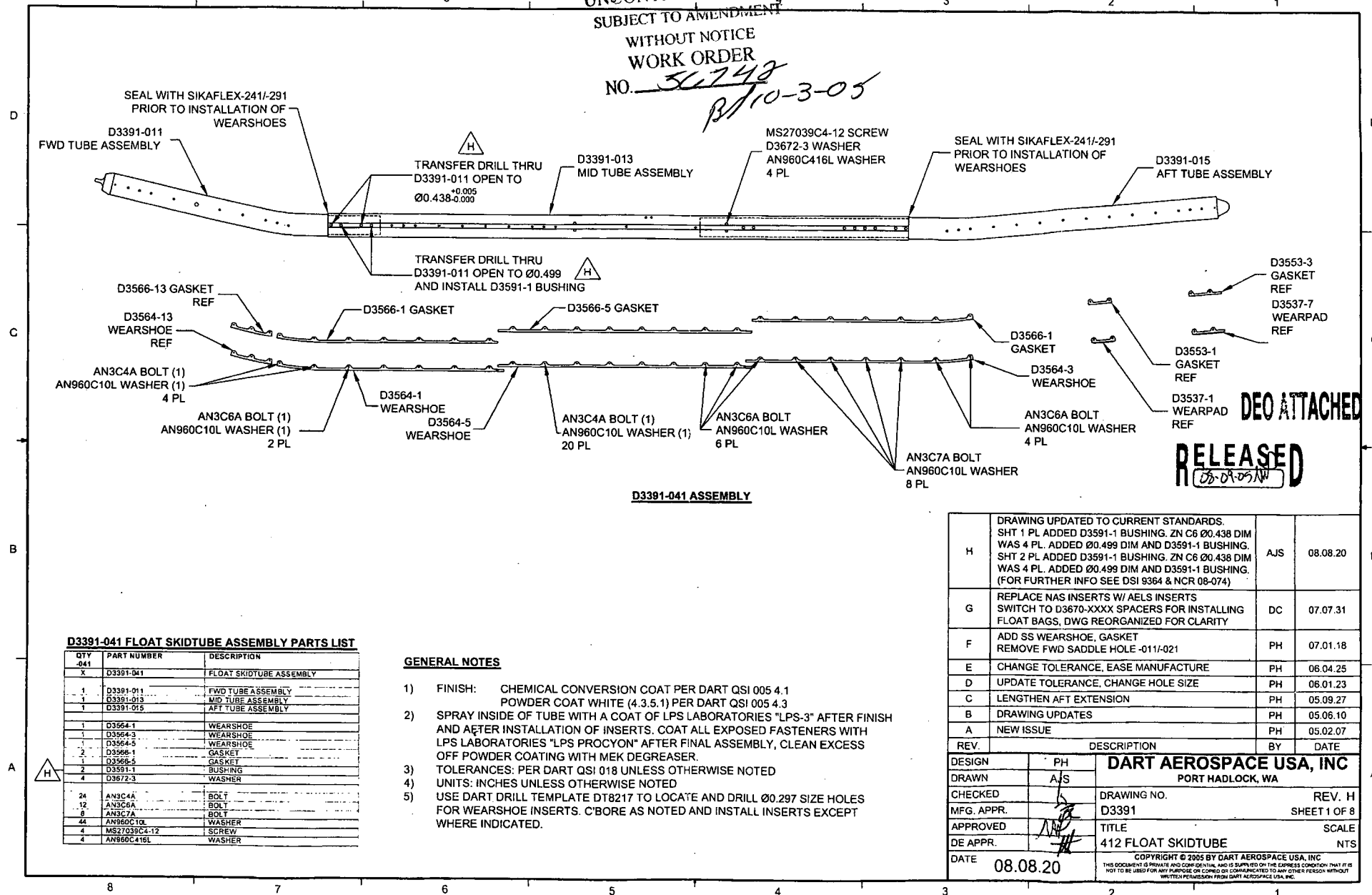
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 56748  
B710-3-05



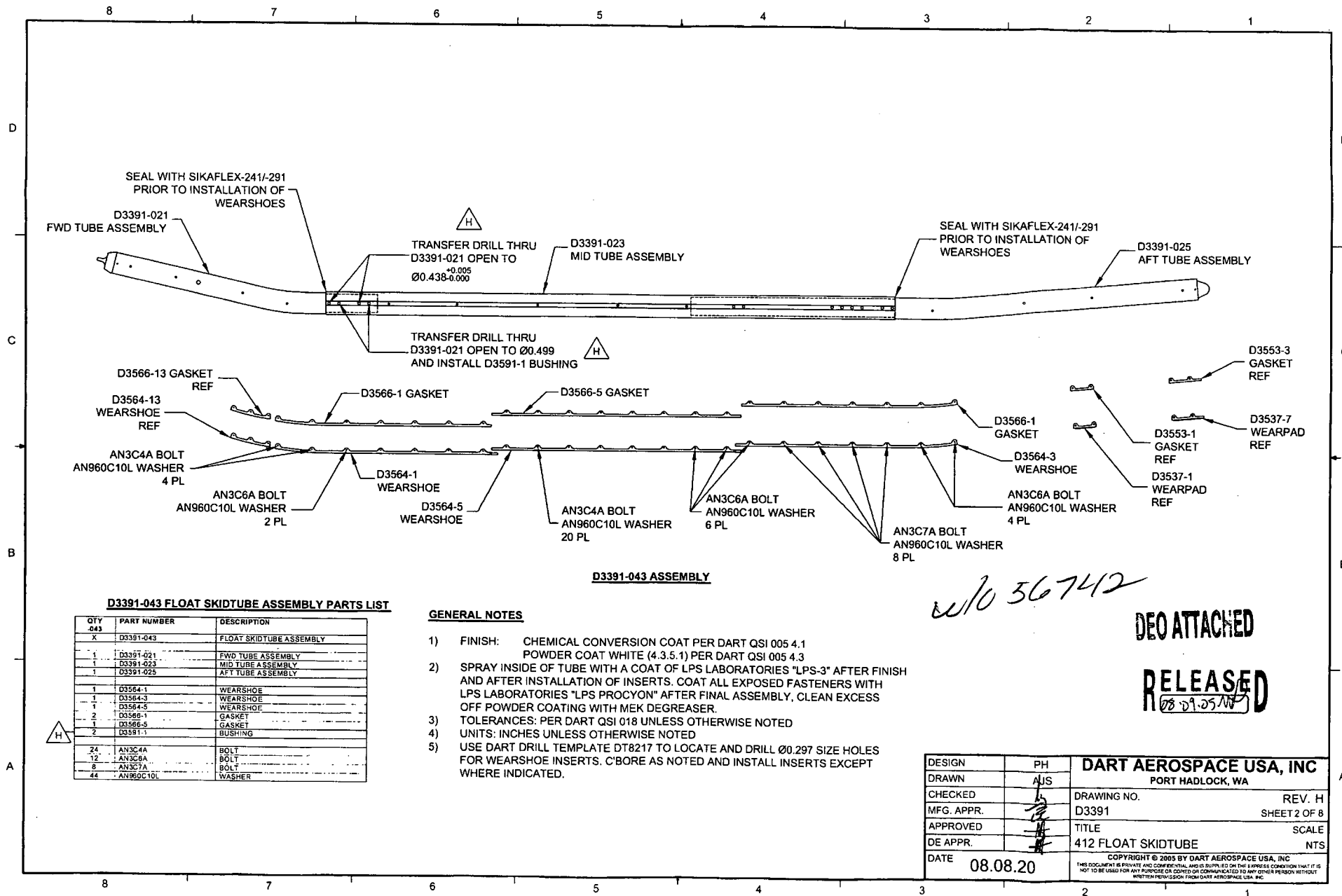
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



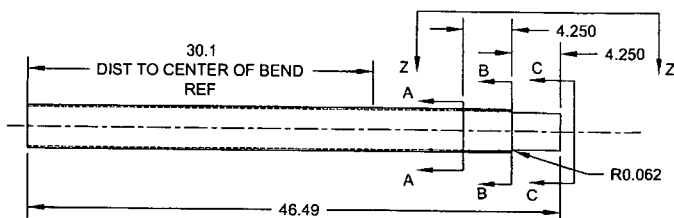
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

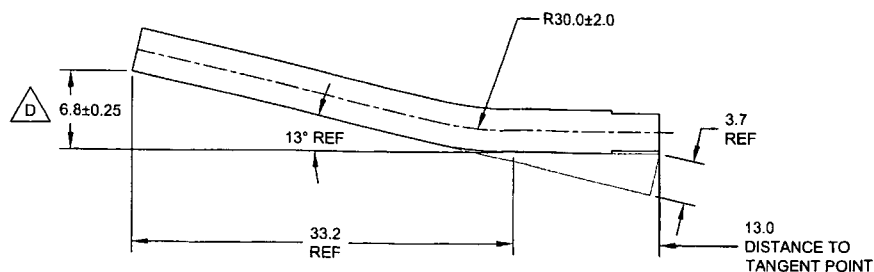
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

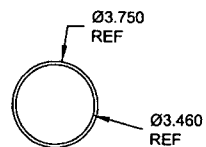
**NOTE:** Date & initial all entries



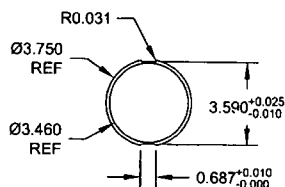
**D3391-1 CUTTING DETAIL**  
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



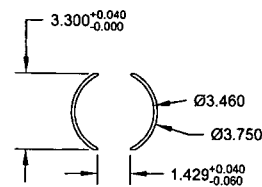
**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)



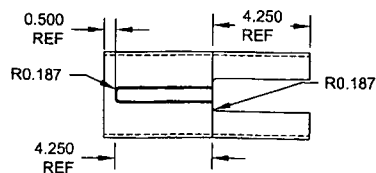
**SECTION A-A**  
SCALE 2X



**SECTION B-B**  
SCALE 2X



**SECTION C-C**  
SCALE 2X



**VIEW Z-Z**  
SCALE 2X

DEO ATTACHED  
RELEASED  
28 JAN 05 NW

W10 34742

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO. D3391	REV. H SHEET 3 OF 8
MFG. APPR.		TITLE	SCALE
APPROVED		412 FLOAT SKIDTUBE	NTS
DE APPR.		DATE 08.08.20	
<small>COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC</small>			

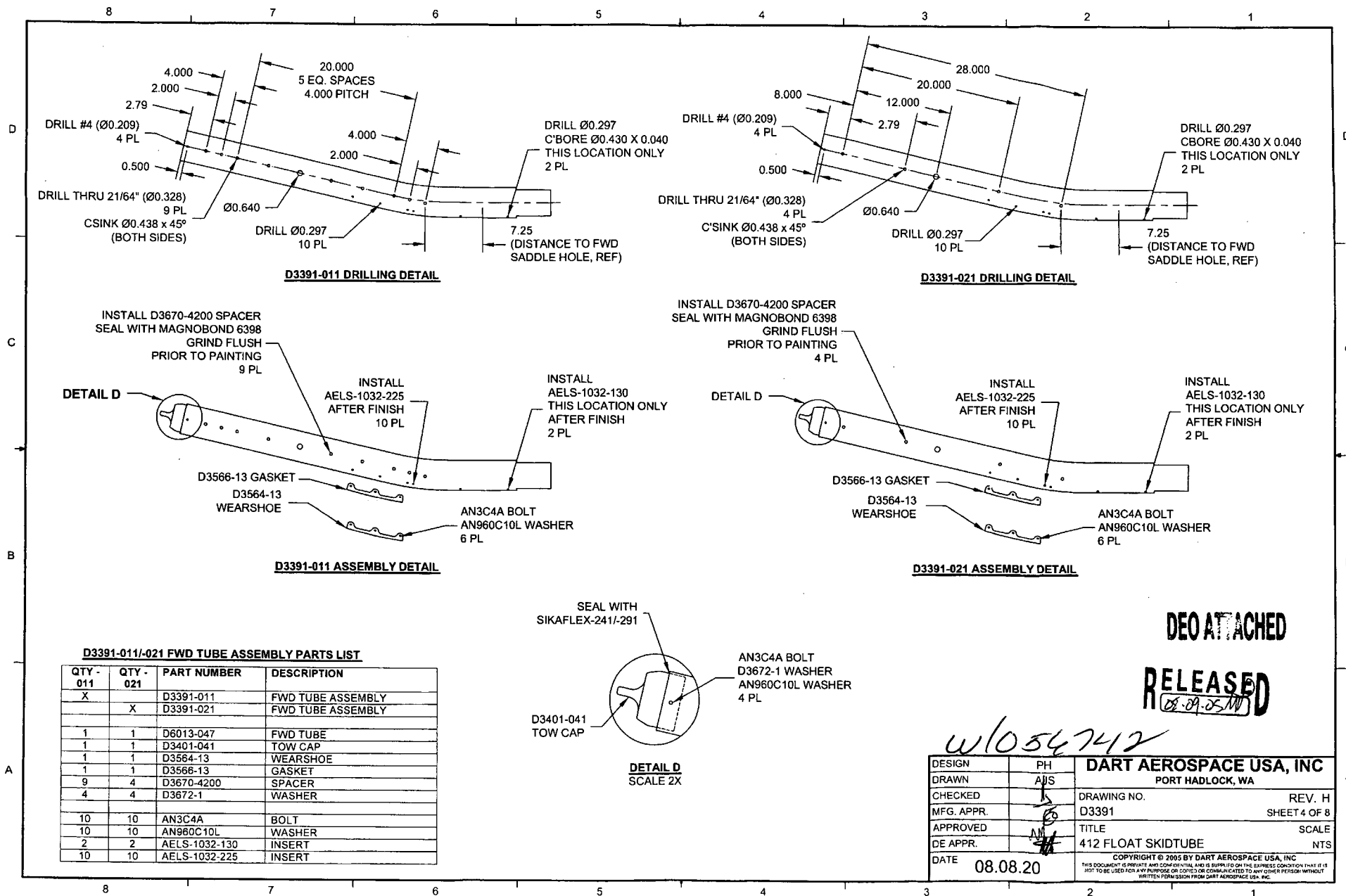
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

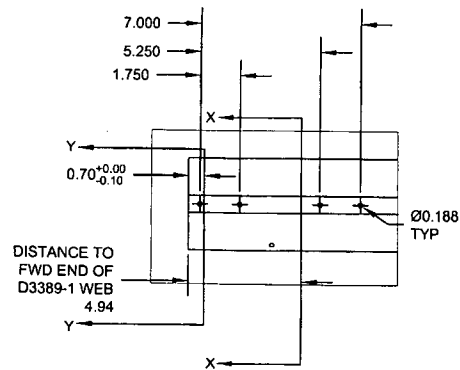
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

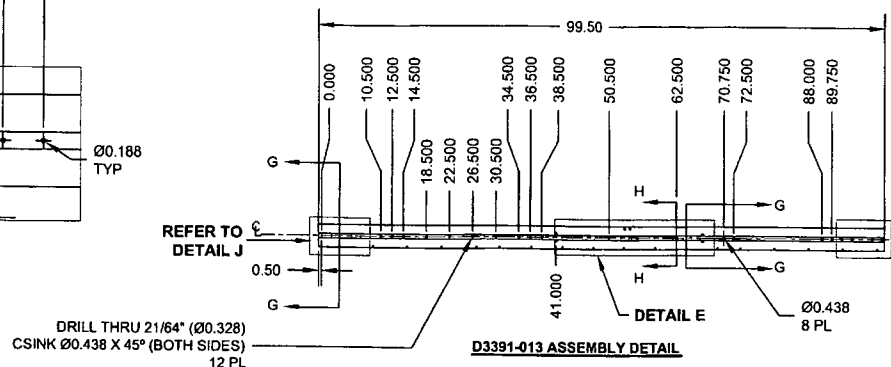
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

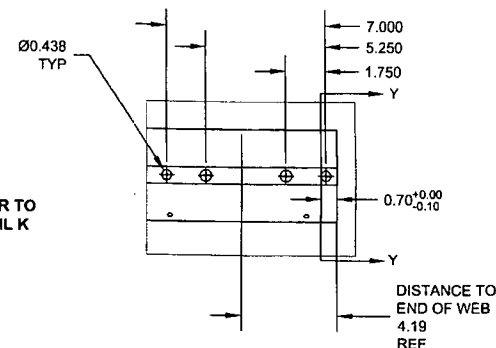
8 7 6 5 4 3 2 1



**DETAIL J**  
SCALE 4X



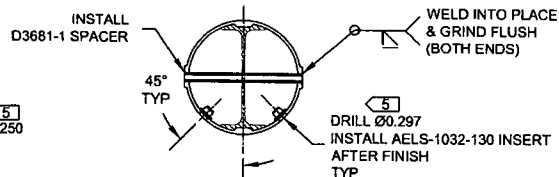
**D3391-013 ASSEMBLY DETAIL**



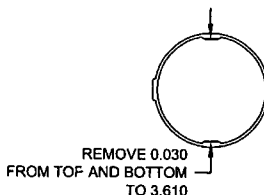
**DETAIL K**  
SCALE 4X



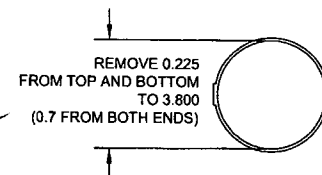
**SECTION G-G**  
SCALE 5X



**SECTION H-H**  
SCALE 5X



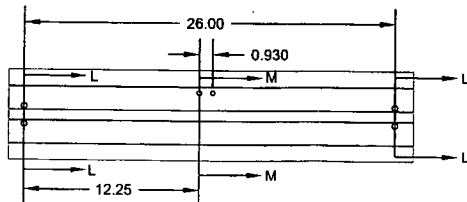
**SECTION X-X**  
SCALE 5X



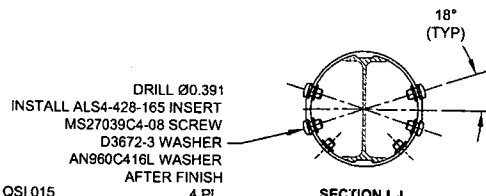
**SECTION Y-Y**  
SCALE 5X

**D3391-013 MID TUBE ASSEMBLY PARTS LIST**

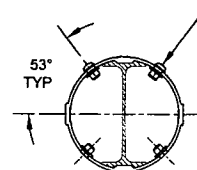
QTY	PART NUMBER	DESCRIPTION
-013		
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW



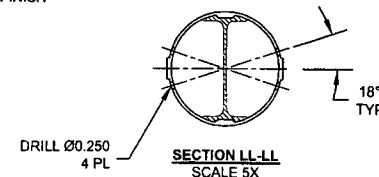
**DETAIL E**  
SCALE NONE



**SECTION L-L**  
SCALE 5X



**SECTION M-M**  
SCALE 5X



**SECTION LL-LL**  
SCALE 5X

**DEO ATTACHED** **RELEASED**

**D3391-013 MID TUBE ASSEMBLY**

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 5 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	

THIS DOCUMENT IS PRELIMINARY AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

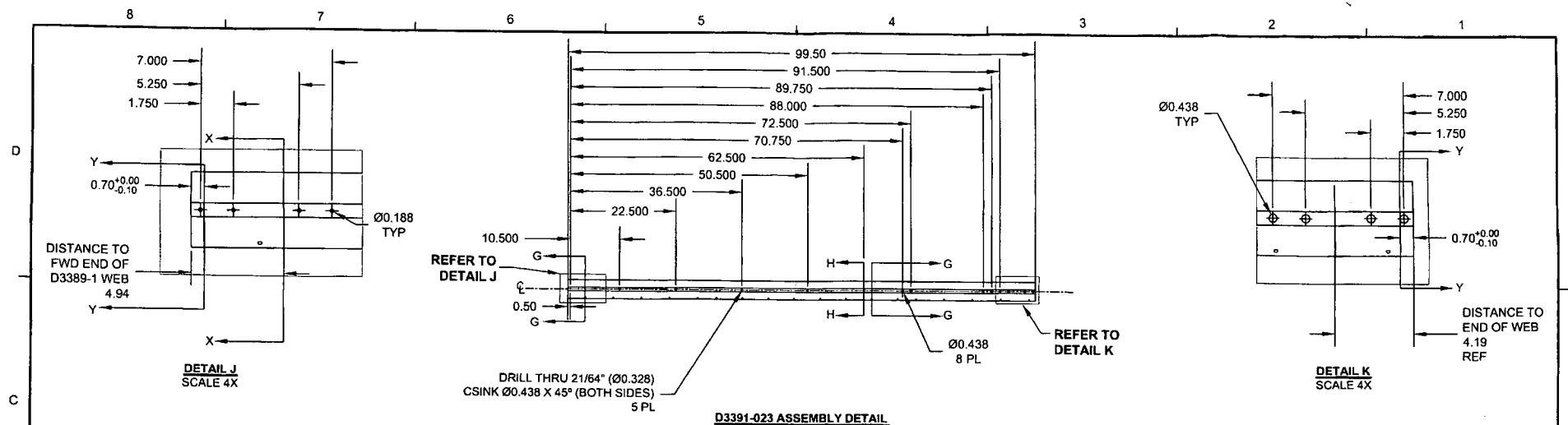
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

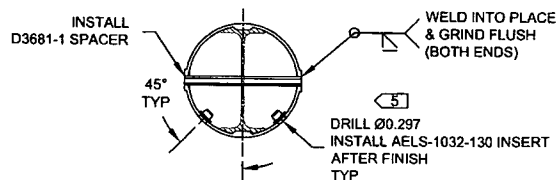
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

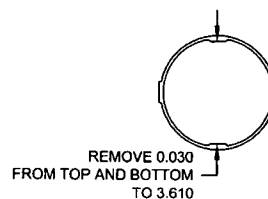
**NOTE:** Date & initial all entries



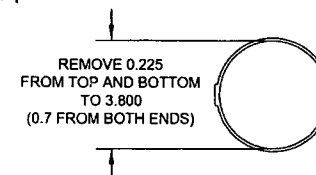
SECTION G-G  
SCALE 5X



SECTION H-H  
SCALE 5X



SECTION X-X  
SCALE 5X



SECTION Y-Y  
SCALE 5X

**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

**D3391-023 MID TUBE ASSEMBLY**

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

DEO ATTACHED  
RELEASED  
08-08-20

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 6 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC.	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.			

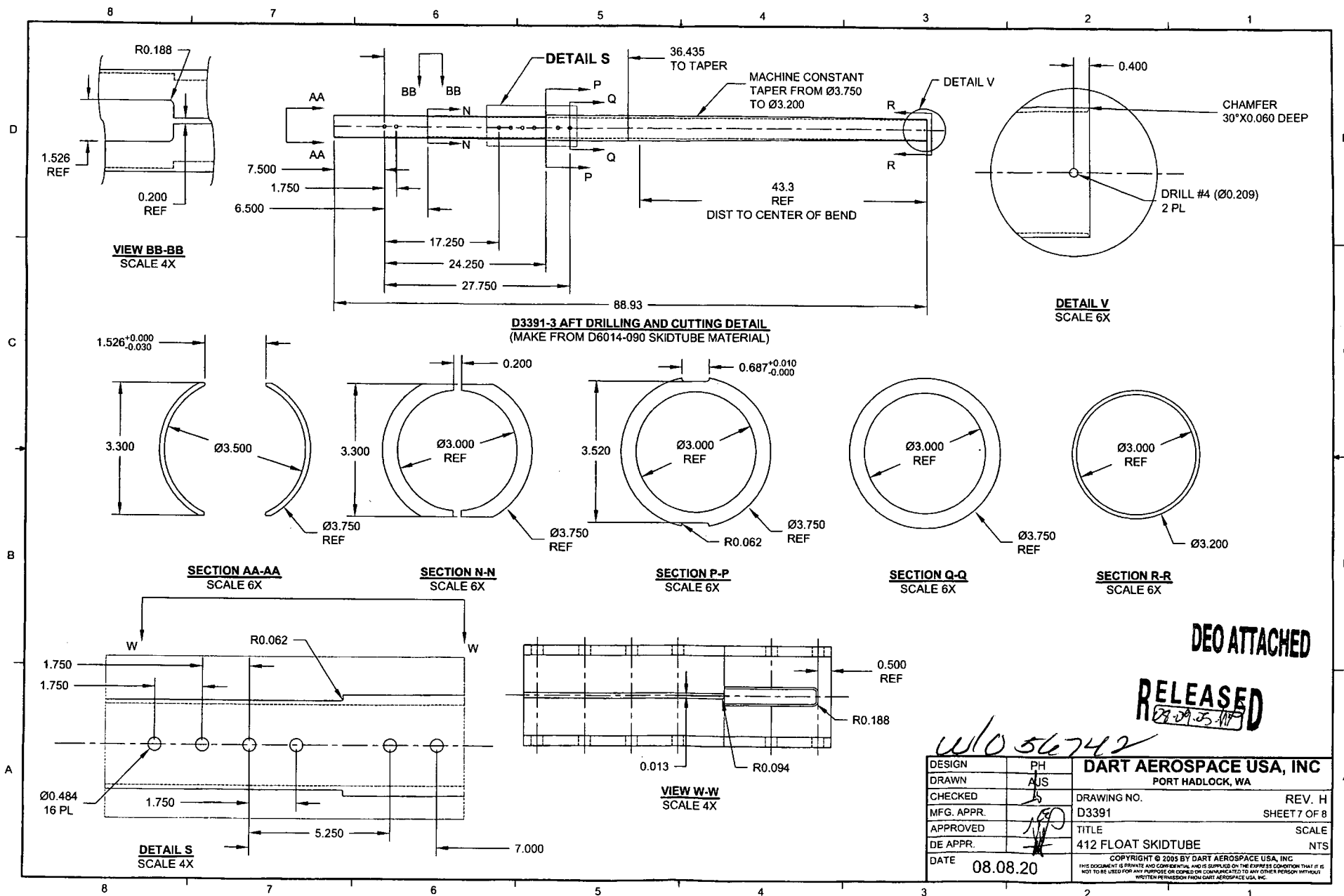
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



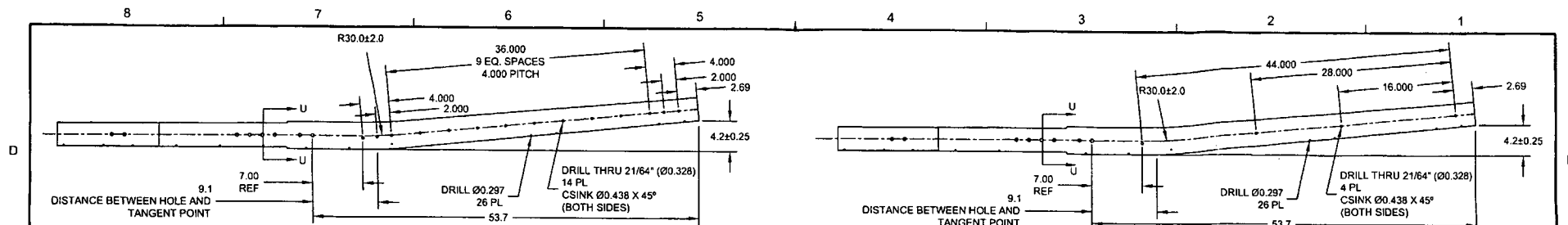
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

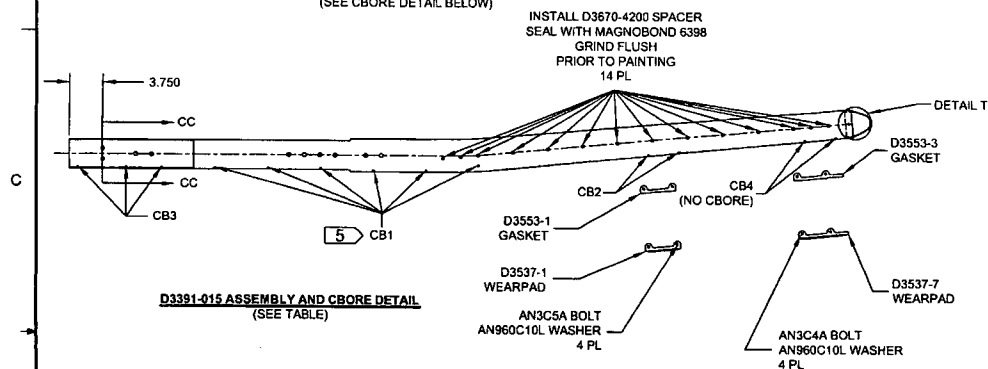
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D3391-015 BENDING AND DRILLING DETAIL**  
(SEE CBORE DETAIL BELOW)



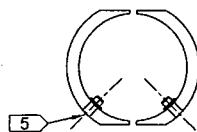
**D3391-015 ASSEMBLY AND CBORE DETAIL**  
(SEE TABLE)

**D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST**

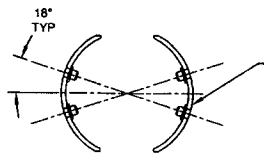
QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X	X	D3391-015	AFT TUBE ASSEMBLY
		D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
14	14	AELS-1032-130	INSERT
12	12	AELS-1032-225	INSERT
4	4	ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER

CBORE HOLES MARKED CB1-CB4 AS FOLLOWS AND  
INSTALL AELS-1032-XXX AFTER FINISH AND NOTE

HOLES MARKED	QTY D3391-015	QTY D3391-025	CBORE	P/N
CB1	12	12	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

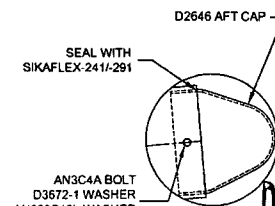


**SECTION U-U**  
SCALE 3X



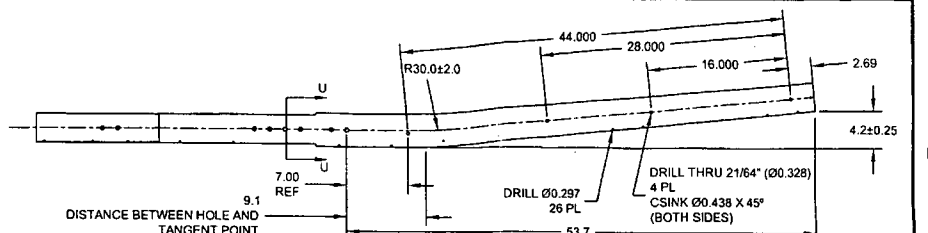
**SECTION CC-CC**  
SCALE 3X

DRILL Ø0.391  
CBORE Ø0.516 X 0.040 DEEP  
INSTALL ALS4-428-165 INSERT  
4 PL

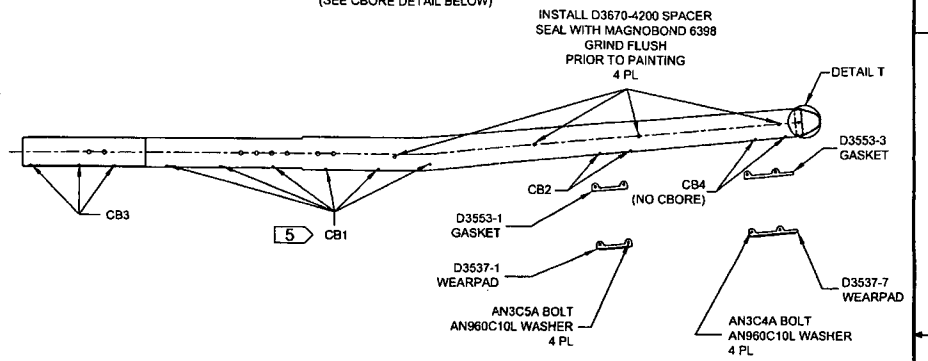


**DETAIL T**  
SCALE 4X

**D3391-025 ASSEMBLY AND CBORE DETAIL**  
(SEE TABLE)



**D3391-025 BENDING AND DRILLING DETAIL**  
(SEE CBORE DETAIL BELOW)



101054742

RELEASED

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 8 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DRAWING NO. D3391	TITLE 412 FLOAT SKIDTUBE	REV. H	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3391-H-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>h</i>	MFG. APPR. <i>AA</i>	APPROVED <i>MP</i>		DE APPR. <i>h</i>		
DATE 09.09.23	DATE <i>04.09.24</i>	DATE <i>09/09/25</i>	DATE <i>09/09/30</i>		DATE <i>09/09/30</i>		

**PURPOSE:**

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

**CHANGE:**

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

- 2) ~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH~~  
~~AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH~~  
 LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS  
 OFF POWDER COATING WITH MEK DEGREASER.

**RELEASED**  
 2010-02-02  
*MP*

*W1034742*

COPYRIGHT © 2009 BY DART AEROSPACE USA, INC

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS  
 NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT  
 WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries